

Appl. No. 10/633,166
Paper dated July 2, 2007
Reply to Office Action dated April 5, 2007

Amendments to the Drawings:

The attached 18 sheet(s) of drawings reflect changes to Figure(s) 9, 10, 15 and 17-22 and replace the original sheet(s) of these Figure(s).

Attachments: Nine (9) Replacement Sheet(s)

Nine (9) Annotated Sheet(s) Showing Changes

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REMARKS

Reconsideration of the above-identified application in view of the foregoing amendments and following remarks is respectfully requested.

A. Status of the Claims and Explanation of Amendments

By this paper the title is amended. The amendment is believed to resolve the objections of the April 5, 2007 Office Action at page 3. Applicant notes, however, that the title has been amended to enable the United States Patent and Trademark Office and the public generally to determine quickly from a cursory inspection the nature and gist of the technical disclosure and to aid indexing, classifying and searching. 37 C.F.R. § 1.72(b); MPEP § 606.01. The amendment is *not* intended to narrow, limit, alter or otherwise characterize what Applicant regards as the invention. It is, of course, the claims and not the title or abstract that defines the invention being claimed.

In the pending office action, the Examiner requested that Applicant amend figures 9, 10, 15, and 17-22 to include the label “Prior Art.” [04/05/2007 Office Action at p. 2]. By this paper, figures 9, 10, 15 and 17-22 are amended to recite the legend “Prior Art.” These amendments are believed to resolve the objections of the April 5, 2007 Office Action on page 2.

Claims 1-13 are pending. Claims 12 and 13 were withdrawn from substantive consideration by Restriction Requirement dated December 13, 2006.

The office action rejected claims 1-11 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent Application Publication No. 2001/0043275 to Hirota et al. (“Hirota”) in view of U.S. Patent No. 7,046,290 to Nozaki (“Nozaki”). [4/05/2007 Office Action at p. 3].

B. Claims 1-11 are Patentably Distinct from the Cited References

The rejections of claims 1-11 are respectfully traversed. As explained more fully below, the requirements for such rejections are not met. In particular, the references do not teach, disclose or suggest the “controller” recited in Applicant’s claim 1.

Applicant’s claim 1 recites:

“1. An imaging apparatus comprising:

an image pickup device having an imaging area in which a plurality of light receiving elements are two-dimensionally placed;

an optical zoom device adapted to expand or reduce an image formed on a light receiving surface of the image pickup device; and

a controller having a first control mode adapted to output picture data by using a signal from a first area in said imaging area, a second control mode adapted to output the picture data by using the signal from a second area smaller than said first area, exerting control so that, in the case of said first control mode, said picture data is outputted by the signal having mixed the signals of the plurality of light receiving elements, and in the case of said second control mode, said picture data is outputted by an unmixed signal of each of the plurality of light receiving elements or the signal having mixed the signals of the plurality of light receiving elements less than the number thereof mixed in the case of said first control mode, and when zooming with said optical zoom device, said controller controls it to operate in said first control mode.”

Hirota is directed to the high-speed transfer of image data by an imaging device.

It discloses two modes of operating the imaging device: a normal imaging mode and a high-speed imaging mode. [Hirota, ¶0063]. Under both modes of operation, the imaging area contains a plurality of sensors (pixels), a plurality of vertical charge coupled devices (CCDs) and a horizontal CCD. [Hirota, ¶¶0058-61]. The sensors are arranged in columns and rows, and convert incident light into signal charges of amounts corresponding to quantities of the incident

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light. [Hirota, ¶0058]. The signal charges read out from the sensors are transferred to the vertical CCDs via read gates. [Hirota, ¶0058]. The vertical CCDs then transfer the signal charges accumulated by the sensors to control gate sections. [Hirota, ¶¶0061-62]. The control gates prevent the free direct transfer of the signal charges from the vertical CCDs to the horizontal CCD. [Hirota, ¶0062].

The office action asserts that Hirota discloses “a controller” as recited in Applicant’s claim 1. [4/05/2007 Office Action at pp. 2-3]. The office action also asserts that Hirota’s “normal imaging mode” and “high-speed imaging mode” are equivalent to the “first control mode” and “second control mode” recited in Applicant’s claim 1, respectively. [04/05/2007 Office Action at p. 2]. The office action further asserts that Hirota discloses a “control mode” where “said picture data is outputted by an unmixed signal of each of the plurality of light receiving elements or the signal having mixed the signals of the plurality of light receiving elements less than the number thereof mixed in the case of said first control mode.” [4/15/2007 Office Action at pp. 2-3].

To support this assertion, the office action cites to paragraphs 0084 to 0086 of Hirota. These paragraphs are a portion of Hirota’s written description, and read as follows:

“[0084] Next, an operation in a 9-fold-speed imaging mode will be described with reference to a timing chart of FIG. 9 and an operation chart of FIG. 10. In the 9-fold-speed imaging operation, since n is equal to 1 in FIG. 5, a reading area 14a is a central portion of the imaging area 14 that occupies 1/3 of the overall horizontal length and 1/3 of the overall vertical length.”

“[0085] The operation chart of FIG. 10 shows operation states of the vertical CCDs 13, the control gate sections 16, and the horizontal CCD 15 at time points T1-T5 shown in FIG. 9. In FIG. 10, mark

"O" indicates unnecessary charges in regions outside the reading area 14a and mark "□" indicates charges to be read out in the reading area 14a. A black-band region on the right of the imaging area 14 indicates an OPB 32 where sensor sections are shielded from light over a plurality of columns."

"[0086] First, when read pulses XSG occur in the vertical transfer clock signals VΦ1 and VΦ3 at a certain time point in a vertical blanking period during which the vertical sync signal VD (see FIG. 9) is at the L-level, signal charges are read out from the respective sensor sections 11 to the vertical CCDs 13 by the read gate sections 12 and signal charges of two pixels that are adjacent to each other in the vertical direction are mixed in the vertical CCDs 13. Combinations of two pixels vertically adjacent to each other that are to be mixed in the first field are different than in the second field."

[Hirota, ¶¶0084-0086].

The above referenced text is directed to a 9-fold speed operation mode, which is one of the high-speed imaging operation modes described in Hirota. [Hirota, ¶0072]. Under the 9-fold speed operation mode, when the read gates are triggered by the XSG pulse, image data is outputted to the read gates through the sensors and vertical CCDs such that the signal charges of two pixels vertically adjacent to each other are mixed." [Hirota, ¶0086]. Hirota further mentions that the combinations of the mixed pixels "in the first field are different than in the second field." [Hirota, ¶0086]. However, the text does not mention that the signal charges or values of the pixels are outputted in an unmixed signal. Hirota also lacks mention of a mode of operation that can output the signal charges in an unmixed or a mixed signal. Hence, Hirota does not mention a "control mode" where "said picture data is outputted by an unmixed signal of each of the plurality of light receiving elements or the signal having mixed the signals of the plurality of light receiving elements less than the number thereof mixed in the case of said first

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control mode.” Therefore, Hirota does not teach, disclose or suggest “a controller” as recited in Applicant’s claim 1.

The office action does not contend that Nozaki teaches, discloses or suggests “a controller” as recited in Applicant’s claim 1. Nozaki is directed toward a camera with a focal point detection device that allows the camera to adjust a focal point, making effective use of a plurality of focal points inside a photographic field. [Nozaki, col. 1, line 66 to col. 2, line 3]. Nozaki’s only mention of the value of pixels and the transfer of image data is that a CCD, input circuit and A/D converter determine the value of pixels and transfer image data. [Nozaki, col. 5, lines 5-18]. Nozaki does not mention how the pixels’ signals or values are transferred from one component of the camera to the next. Hence, Nozaki does not mention a “control mode” where “said picture data is outputted by an unmixed signal of each of the plurality of light receiving elements or the signal having mixed the signals of the plurality of light receiving elements less than the number thereof mixed in the case of said first control mode.” Accordingly, Applicant’s own review of Nozaki confirms that Nozaki does not teach, disclose or suggest “a controller” as recited in Applicant’s claim 1.

Accordingly, as Applicant cannot find the “controller” of claim 1 in Hirota or Nozaki, at least independent claims 1 and its dependent claims 2-10 are respectfully asserted to be in condition for allowance. For at least similar reasons, independent claim 11 also is respectfully asserted to be in condition for allowance.

Applicant has chosen in the interest of expediting prosecution of this patent application to distinguish the cited documents from the pending claims as set forth above. These statements should not be regarded in any way as admissions that the cited documents are, in fact, prior art. Likewise, Applicant has chosen not to swear behind the documents cited by the office

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action or to otherwise submit evidence to traverse the rejection at this time. Applicant, however, reserves the right, as provided by 37 C.F.R. §§ 1.131 and 1.132, to do so in the future as appropriate. Finally, Applicant has not specifically addressed the rejections of the dependent claims. Applicant respectfully submits that the independent claims, from which they depend, are in condition for allowance as set forth above. Accordingly, the dependent claims also are in condition for allowance. Applicant, however, reserves the right to address such rejections of the dependent claims in the future as appropriate.

CONCLUSION

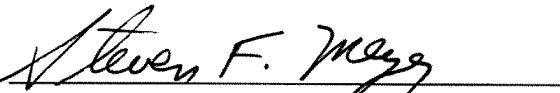
For the above-stated reasons, this application is respectfully asserted to be in condition for allowance. An early and favorable examination on the merits is requested. In the event that a telephone conference would facilitate the examination of this application in any way, the Examiner is invited to contact the undersigned at the number provided.

THE COMMISSIONER IS HEREBY AUTHORIZED TO CHARGE ANY ADDITIONAL FEES WHICH MAY BE REQUIRED FOR THE TIMELY CONSIDERATION OF THIS AMENDMENT UNDER 37 C.F.R. §§ 1.16 AND 1.17, OR CREDIT ANY OVERPAYMENT TO DEPOSIT ACCOUNT NO. 13-4500, ORDER NO. 1232-5096.

Respectfully submitted,
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